REMARKS

Reconsideration of the application in view of the amendments and the remarks to follow is requested.

Claims 1-7 and 51-74 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The Examiner states the specification does not teach that a smaller active area width has a lower threshold voltage. Regarding a rejection based on 112, first paragraph, the Examiner is respectfully reminded that MPEP 2163.02 (8th Edition) states the test for sufficiency of support in an application is whether the disclosure relied upon reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter. MPEP 2163.02 (8th Edition) *citing* Ralston Purina Co. v Far-Mar-Co., Inc., 772 F.2d 1570, 1575, 227 USPQ 177, 179 (Fed. Cir. 1985). Applicant respectfully requests the Examiner note pg. 6, line 8 of the originally-filed application which states, "STI transistors show a **threshold voltage reduction with reducing gate width**" (emphasis added). Contrary to the Examiner's contention, Applicant submits this disclosure reasonably conveys to the artisan that the specification does teach that a smaller active area width has a lower threshold voltage. Pursuant to the above authority, the §112, first paragraph rejection is improper and should be withdrawn.

Moreover, claim 1 is amended for clarity to recite "a transistor corresponding to an active area having a smaller of the different widths has a

lower of the different threshold voltages". This amendment more clearly expresses a limitation which was inherent in the claim as previously written, and accordingly, does not narrow the scope or breadth of the claim.

Claim 85 stands rejected under 35 U.S.C. §112, second paragraph, as being indefinite wherein the Examiner particularly refers to the recitation, "the respective ones of the power terminals" of claim 85. The Examiner is respectfully reminded that MPEP §2173.02 (8th Edition) states definiteness of claim language must be analyzed, not in a vacuum, but in light of the content of the particular application disclosure and the claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made. Applicant requests that the Examiner direct her attention to Fig. 7 of the originally-filed application which illustrates transistors 42, 44, 46 having respective power terminals commonly coupled with one another at a common node labeled RNL (also stated at pg. 11 of the originally-filed application). Applicant submits one skilled in the art would understand the claim language of claim 85, particularly in the context of the application disclosure, and therefore, the language of claim 85 is definite. The §112, second paragraph rejection against claim 85 is inappropriate and should be withdrawn.

Moreover, no other rejection is presented against claim 85, and therefore, claim 85 is allowable. If a rejection is presented in the next office action against claim 85, then the present final office action is premature and should be

withdrawn pursuant to MPEP 706.07 (8th ed.). Moreover, once the finality of the present office action is withdrawn, Applicant requests a refund for the fee presented with this Request for Continued Examination.

Claims 1-7, 51-74 and 86 stand rejected under 35 U.S.C. §102(e) as being anticipated by Liaw et al., 5,960,276.

Independent claim 1 recites transistors corresponding to active areas having different widths have different threshold voltages, and the active areas having the different widths each comprise a width of less than one micron. Liaw teaches two sets of transistors with one set having an active area width described as "narrow active areas 12N" and another set having an active area width described as "wide active areas 12W" (col. 1, ln. 65 to col. 2, ln. 1). Liaw further teaches that narrow active areas 12N have a width between 0.4 and 1.0 micron and wide active areas 12W have a width **greater** than 1.0 micron (col. 2, lns. 1-7). That is, of the active areas having the different widths, one set is disclosed as being **greater** than **1.0 micron**. Consequently, it is inconceivable that Liaw teaches or suggests the active areas having the different widths **each comprise a width** of less than one micron as positively recited in claim 1. Since Liaw fails to teach or suggest a positively recited limitation of claim 1, claim 1 is allowable.

Claims 2-7, 51-53, 85 and 87-89 depend from independent claim 1, and therefore, are allowable for the reasons discussed above with respect to the

independent claim, as well as for their own recited features which are not shown or taught by the art of record.

Independent claim 54 recites performing a **plurality** of channel implants **common to individual transistors** to provide the different threshold voltages. The invention of Liaw allegedly teaches a solution to specifically address a problem referred to as the NMOS reverse Width effect (col. 3, lns. 20-26). NMOS reverse Width effect is stated as an increase in sub-threshold leakage in transistors (col.1, lns. 18-20) for channel widths 12N (active area) of less than 1.0 micron wide while the problem is not found on channel widths 12W greater than 1.0 micron wide (col. 3, lns. 20-26). To address this problem and stated as a critical step (and key step) of the invention, Liaw teaches to perform a large angle boron implant into the **bottom and sidewalls of trenches** to form a boron doped region 44 (col. 2, lns. 3-13; col. 3, lns. 34-39; Figs. 1-2). That is, Liaw teaches **one** implant, and no more (col. 1: lns. 33-37, 38-41, 42-46, 47-58; col. 2, lns. 3-13; col. 3, lns. 34-39; col. 4, lns. 3-6; Figs. 1-2). Accordingly, it is inconceivable that Liaw teaches or suggests performing a **plurality of channel implants common** to the individual transistors as positively recited in claim 54. Liaw fails to teach or suggest a positively recited limitation of claim 54, and therefore, claim 54 is allowable.

Claims 55-62 and 90-93 depend from independent claim 54, and therefore, are allowable for the reasons discussed above with respect to the independent

claim, as well as for their own recited features which are not shown or taught by the art of record.

Claim 63 recites transistors corresponding to active areas having the different widths have different threshold voltages. The Examiner relies on a table (Table 1) at col. 4, lns. 10-25 of Liaw and a graph in Fig. 4 to allegedly teach these limitations of claim 1 (pg. 7 of paper no. 120503) wherein Liaw teaches and uses the active areas, **active area 12N** ("N" is for narrow) and **active area 12W** ("W" is for wide) interchangeably with "channel widths" (col. 3, lns. 22-26 and lns. 57-59) (that is, to allege channel widths of Liaw extend in the same direction as the active area widths for the transistors). However, Liaw teaches conflicting directions for channel widths, and in fact, refers to channel widths extending in perpendicular directions. For example, Figs. 1 and 2 of Liaw suggest active areas widths 12N and 12W are defined as channel widths in a first direction, and Fig. 3B of Liaw teaches a second channel width that **extends in a second direction** which is perpendicular to the channel width directions of active areas 12N and 12W (col. 4, lines 1-2). Liaw teaches the conductive gates 40 (shown in Fig. 3B) have a channel width 42 and this channel width 42 is introduced as the last line before the discussion of the table shown in the col. 4. Consequently, it can not be assumed that channel widths of the table of Liaw for which the Examiner relies are in the direction of active areas widths 12N and 12W, and therefore, there is no teaching to shallow trench isolation

regions being formed to define a plurality of active areas comprising **channel widths** within the substrate as positively recited in claim 63.

Moreover, case law confirms that a reference teaching to conflicting theories can not be used for that teaching. Since it is unclear which direction is defined for the channel widths of the table of Liaw, there are two conflicting theories which can be developed with respect to the teachings of the table. "A document so obscure in its terminology that two conflicting theories might be deduced therefrom is too indefinite to be utilized as a reference" *Mobil Oil Corp. vs. W. R. Grace and Co.*, 367 F. Supp. 207, 180 USPQ 418, 433 and 452 (D. Connecticut 1973) (citations omitted). Pursuant to this authority, since two conflicting theories can be developed with respect to the teachings of the table because of the two different directional teachings of the channel widths, Liaw is too indefinite to be utilized as a reference, at least to used to teach active areas or channel widths. Consequently, the art of record including Liaw fails to teach or suggest the recited limitations of claim 63, and therefore, claim 63 is allowable.

Claims 64-66, 86 and 94 depend from independent claim 63, and therefore, are allowable for the reasons discussed above with respect to the independent claim, as well as for their own recited features which are not shown or taught by the art of record.

Independent claim 67 recites transistors being formed in an electrically parallel configuration. Liaw teaches transistors extending physically in a linear configuration along gate line 40 (Fig. 3B). Liaw is devoid to teachings or suggestions of semiconductor devices being formed in electrical configurations. Accordingly, Liaw is devoid to teachings or suggestions of **transistors** being formed in electrical configurations. Consequently, it is inconceivable that Liaw teaches or suggests transistors being formed in an electrically **parallel configuration** as positively recited in claim 67. Claim 67 is allowable.

Claims 68-74 and 95-99 depend from independent claim 67, and therefore, are allowable for the reasons discussed above with respect to the independent claim, as well as for their own recited features which are not shown or taught by the art of record.

Further, Applicant herewith submits a duplicate copy of the Supplemental Information Disclosure Statement and Form PTO-1449 filed in this application on March 18, 2004. No initialed copy of the PTO-1449 has been received back from the Examiner. To the extent that the submitted references listed on the Form PTO-1449 have not already been considered, and the Form PTO-1449 has not been initialed with a copy being returned to Applicant, such examination and initialing are requested at this time, as well as return of a copy of the initialed Form PTO-1449 to the undersigned.

This application is now believed to be in immediate condition for allowance, and action to that end is respectfully requested. If the Examiner's next anticipated action is to be anything other than a Notice of Allowance, the undersigned respectfully requests a telephone interview prior to issuance of any such subsequent action.

Respectfully submitted,

Dated: 8-23-04 By: _____

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